Questions for Duke Energy (6/24/2014)

Questions Regarding FGD Data Provided for Allen Steam Station

1. For the analytical data, non-detects are provided as "<value" (i.e., <0.01). Is the value provided the detection limit (MDL) or reporting limit (RL)? If not the RL, please provide that value.

2. On the "Analytical Methods" tab, what value is provided in Column C (see table below)? Is this the MDL or the RL? If not the RL, please provide that value for each method.

From "Analytical Methods" tab in the "Allen EPA Data Final 3_28_14.xlsx" and "BC EPA Data Final 3_28_14.xlsx" files			
Analyte	Method	??	Notes
As, Be, Ca, Cr, Cu, Ni, Ag, Zn, Se	200.8 (ICP-CRC-MS)	10 ppb	May vary with dilution
B,Fe	200.7		
Hg (results ≥ 1ppb)	245.1	1 ppb	May vary with dilution
Hg (results < 1 ppb)	1631E	1 ppt	May vary with dilution
Alkalinity	2320B		
Ammonia, Nitrate	350.1	0.04 ppm	May vary with dilution
Br, Cl	300.0	10 ppm	May vary with dilution
TKN	351.2	0.1 ppm	May vary with dilution
TDS	2540C	10 ppm	May vary with dilution
TSS	2540D	4 ppm	May vary with dilution
Se Speciation (Applied Speciation)	IC-ICP-DRC-MS	Variable	May vary with dilution

3. What is represented in the "RC" tab of the "Allen EPA Coal Data Final 3_38_24.xls" file?
    a. What does each column in the spreadsheet represent?
    b. What process does this represent? Does it have any effect on ash transport water or FGD wastewater characteristics?

4. For the FGD Purge Eff on 10/5/2010, there is a beryllium result of 0 (zero). What does this "0" value represent?

5. In the "Analytical" tab, there is a field titled, "Se(UK) (ug/L)"
    a. What does this field represent?
    b. Were these values measured or calculated, and what does a value of 0 (zero) represent?

6. In the "Analytical" tab, the concentrations reported for the FGD Purge Eff on 10/9/2010 for MeSe(IV), SeCN, and SeMe are "<0". Is this correct? What does this represent?

7. Lab reports were provided for the Cliffside and Miami Fort analytical data, but not for Allen Steam Station. Please provide the laboratory reports for the Allen analytical data.

8. Please confirm the data in column H are for the combined parameter nitrate-nitrite. What analytical method was used for these data (9/29/11-12/22/11, 6/3/13-10/22/13)?

9. Both the Bio Influent and Bio Effluent nitrate-nitrite data for 12/20/11 are listed as 97 mg/L. What are the correct values for this day?

10. Effluent concentrations of nitrate-nitrite and selenium were elevated in December 2011. Effluent selenium was again elevated in December 2012 / January 2013. What caused these increases in effluent concentration?

Questions Regarding FGD Data Provided for Belews Creek Steam Station

1. For the analytical data, non-detects are provided as "<value" (i.e., <0.01). Is the value provided the detection limit (MDL) or reporting limit (RL)? If not the RL, please provide that value.

2. On the "Analytical Methods" tab, what value is provided in Column C? (See the table above for the information provided on the "Analytical Methods" tab.) Is this the MDL or the RL? If not the RL, please provide that value for each method.

3. Please explain what is represented in the "COMBINED BELEWS CREEK" tab of the "BC EPA Coal Data Final 3_28_14.xlsx" file.
    a. What does each row in the spreadsheet represent?
    b. What process does this represent and does it have any effect on ash transport water or FGD wastewater characteristics?

4. For the Bio 1 Inf on 4/26/2011, there is a dissolved selenium result of "<567". Is this a data entry error?

5. In the "Analytical" tab, column AM is titled "Th, tot (mg/L)." Do the data in this column represent Thorium (chemical symbol Th), or do the data in this column represent Thallium (chemical symbol Tl)?

6. In the "Analytical" tab, the concentrations reported for the Bio 2 Eff on 11/28/2013 for Vanadium and Thorium/Thallium are "<0". Is this correct? What does this represent?

7. Lab reports were provided for the Cliffside and Miami Fort analytical data, but not for Belews Creek Steam Station. Please provide the laboratory reports for the Belews Creek analytical data.

8. Please confirm the data in column I are for the combined parameter nitrate-nitrite. What analytical method was used for these data (5/15/13-11/28/13)?

Questions Regarding Information Provided for Cliffside Steam Station

1. Duke Energy provided the following spreadsheets that contain analytical data from the Cliffside pilot test:
    a. Cliffside Bio Pilot Test.xlsx (CBI);
    b. Cliffside EDD File.xlsx (CBI); and
    c. Non CBI Cliffside EPA data Final 3_14_14.xlsx

   Please confirm whether all the data contained in the "Cliffside Bio Pilot Test" and the "Non CBI Cliffside EPA data Final 3_14_14" file are also contained in the "Cliffside EDD File."

2. The "Cliffside EDD File" contains additional information regarding the samples results that is not contained in the "Non CBI Cliffside EPA data Final 3_14_14" file, such as the MDL, RL, lab, and Flag. Is Duke Energy claiming this additional information as CBI for those sample results that are contained in the Non CBI Cliffside EPA data Final 3_14_14" file? If not, can EPA treat all the "bioreactor influent" data in the "Cliffside EDD File" as nonCBI?

3. In the "Cliffside Bio Pilot Test" and "Non CBI Cliffside EPA data Final 3_14_14" files, there are certain analytical results that are highlighted green or yellow. Please explain what those colors represent.

4. For the selenium speciation data submitted for the various sampling points, there is a field titled, "Unknown Se." Were these values measured or calculated, and what does a value of 0 (zero) represent?

Questions Regarding Bottom Ash Information Provided

1. For data provided in lab reports for Miami Fort (MFS U6 2012 Bottom Ash Test Lab Reports.pdf), please identify the unlabeled column presented after the Reporting Limit (RL) column.

2. For Miami Fort, please provide the laboratory reports corresponding to the samples collected on 02/27/2014, as shown in the file named "MFS U8 2012 Bottom Ash Data Duke 2_27_14.xls"

3. For the Cliffside plant, please confirm the sample numbers located in the spreadsheet titled "Cliffside EDD 6_28_13.xlsx". Page 2 of the file titled "Cliffside Bottom Ash Lab Report 6_28_13.pdf" indicates 4 different sample numbers while only 1 sample number is presented in the spreadsheet.

4. For Belews Creek please indicate the sampling events represented by the data presented in Appendix B of your comments on the proposed rule, submitted 9/19/2013. The data appears to represent the data from the 9/13/12 sampling event (Bottom Ash Belews Creek 9_13_12 Lab Report.pdf) and does not include any data from the 6/27/13 sampling event (Bottom Ash Belews Creek Report 6_27_13 Lab Report.pdf).

5. Please answer the following questions related to the bottom ash sampling results provided for East Bend, Cliffside, and Miami Fort:

    a. Please provide the Pond/Impoundment Unit ID (e.g., SPD-2) for the pond which bottom ash transport water sampled would enter. What is the residence time associated with this pond.

b. Please provide a detailed description of the sampling method used to collect the samples. Specify the location of the bottom ash transport water sample provided (e.g., directly from bottom ash sluice pipe discharges into commingled pond or upstream prior to this point), and whether the sample was a grab or composite sample. Additionally provide duration and frequency information for all composite sampling (e.g., 24-hour composite collected every hour).
c. If the sampling protocol described in response to 5.b includes collecting the sample prior to the pond and allowing the sample to settle prior to collecting the resultant supernatant, please specify how long the bottom ash was in contact with the water prior to collecting the supernatant. Please explain whether this sample is meant to represent the ash pond effluent and, if so, explain how the amount of time the sample was allowed to settle compares to the residence time of the pond and why that is appropriate for representing the ash pond effluent.
d. How often is the bottom ash sluiced at the plant? Please indicate whether samples were collected during periods when the bottom ash is not sluiced (i.e., source water is flowing through the pipe).
e. Please provide the associated TSS concentration for the source water and the bottom ash samples.
f. Please describe any atypical operations occurring at the plant at the time of sampling (e.g., test burn of new coal).

General Clarification

1. The coal data for plants Allen, Belews Creek, Cliffside, Mayo, and Roxboro contain a field referred to as “Daily Reclaim.” What does the “Daily Reclaim” represent and how does that compare to the data presented in the other columns?